THE

INFLUENCE

OF

METALLIC TRACTORS

ON THE

HUMAN BODY,

In removing various painful Inflammatory Diſeaſes, ſuch as

Rheumatiſm, Pleuriſy, ſome Gouty Affections, &c. &c.

LATELY DISCOVERED BY

DR. PERKINS, OF NORTH AMERICA;

And demonſtrated in a Series of

EXPERIMENTS AND OBSERVATIONS,

By PROFESSORS MEIGS, WOODWARD, ROGERS, *&c. &c.*

By which the Importance of the DISCOVERY

Is fully aſcertained, and a new Field of Enquiry opened in the Modern Science of

GALVANISM,

OR,

ANIMAL ELECTRICITY.

BY BENJAMIN DOUGLAS PERKINS, A.M.
SON TO THE DISCOVERER.

Natura obtemperando vincitur. BACON.

London:
Printed for J. JOHNSON, N° 72, St. Paul's Church-Yard;
and OGILVY and SON, N° 315, Holborn. 1798.

[Price 2*s.* 6*d.*]

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PREFACE.

THE following pages are designed to give an historical sketch of the origin and progress of the DISCOVERY, lately made by Dr. PERKINS of Connecticut, relative to the beneficial influence of his METALLIC TRACTORS in various diseases.

In explaining the treatment this discovery received on its first introduction

troduction to the world, the Author (if a Son can hold forth the language of impartiality when ſpeaking of events ſo intereſting to a Parent) has ſtrictly aimed at correctneſs in his ſtatements, and, as far as the ſubject would admit, has carefully avoided perſonalities.

In the latter part of this tract is introduced a ſeries of EXPERIMENTS, made by many literary and philoſophical characters in the United States, for the purpoſe of aſcertaining the reality and importance of the diſcovery; and which were communicated to Dr. Perkins for publication.

Theſe

Theſe are not cited with a view to eſtabliſh in this kingdom the credit of the *Tractors*; but as the experiments are immediately connected with an hiſtorical account of the Diſcovery, the deſign of this treatiſe could not be anſwered but by inſerting them.

They will alſo ſerve as a ſpecification of the diſeaſes which are ſubject to the Metallic Influence, and are deſcriptive of the effects which may be expected in ſimilar experiments.

But the writer does not wiſh to reſt the credit of the diſcovery merely

on

on the authority of great names, however reſpectable and influencial theſe may be; for he flatters himſelf, when favoured with ſuitable ſubjects, he ſhall be able to give a ſpecies of evidence, to every perſon, far more ſatisfactory than the teſtimony of others; viz. that of ocular or experimental demonſtration.

For this purpoſe, the writer has croſſed the Atlantic, and become a reſident of London, that he may devote his time and attention to the diffuſion of this important diſcovery, and its application to the relief of the miſeries of mankind; to which the preſent Eſſay may be conſidered as an introduction.

The

The various obſtacles which always preſent themſelves to the authors of any material innovation, more eſpecially one which may have to encounter INTEREST as well as PREJUDICE, he conceives will warrant him in having ſecured, under the great ſeal of England, the excluſive right of "making, uſing, and vending his *Tractors* in this kingdom;" as this meaſure alone could ſecure the adventurer a recompence, adequate to the expences which muſt neceſſarily ariſe in diſſeminating a knowledge of their utility and importance.

It is not, however, the intention of the Patentee to withhold, by this meaſure, the advantages of the diſcovery from the Public; but, on the contrary, he will ſupply all perſons with his *Tractors*, who wiſh to poſſeſs them, attended with ſuitable and ſufficient directions for their uſe, at FIVE GUINEAS per Set;* which muſt be allowed but a trifling conſideration, if they produce the ſalutary effects aſſerted in the EXPERIMENTS.

* Every *genuine* Set of the *Tractors* is ſtamped with the words, "PERKINS PATENT TRACTORS;" and, to the *Directions* accompanying them, is added a receipt, numbered and ſigned by the *Patentee*.

The

The Reader, it is hoped, will not infer that the operation of the Metallic Influence is recommended as an abſolute SPECIFIC in all the diſeaſes hereafter enumerated. Some inſtances muſt occur, in obſtinate caſes of long duration, which will baffle all human aſſiſtance.

As the practice with the *Tractors* is extremely ſimple, as well as innocent, and the directions accompanying them perfectly intelligible to every capacity, the author need not enlarge on the extenſive benefit of which they may be productive in *Infirmaries*, *Poor Houſes*, and alſo in

Private

Private Families. The numerous chronic pains in thoſe inſtitutions, and the various accidents and complaints, as burns, ſcalds, head-achs, &c. incident to every family, will daily afford opportunities of experiencing their utility.

Theſe pages are, with much diffidence, ſubmitted to the Public. The Author is aware that, from haſte in putting them to preſs, as well as his own inability to execute his taſk, they may contain many imperfections; yet he flatters himſelf the importance as well as novelty of the ſubject, will excite attention; particularly

particularly in an age and nation, which juſtly prides itſelf in the patronage of diſcoveries in ſcience, and improvements in the uſeful arts.

No. 18, Leiceſter Square,
April 9th, 1798.

ON THE

INFLUENCE OF METALS, &c.

DOCTOR PERKINS of Connecticut, in North America, for many years entertained the opinion that metals poſſeſſed an influence on the human body, which had hitherto eſcaped the ſcrutinizing eyes of phyſiologiſts. This opinion was the reſult of ſome phenomena, which in the courſe of his extenſive practice had accidentally arreſted his attention.

Here it is neceſſary to obſerve, that in the United States of America, as in all other new ſettled countries, labour has not yet received the diviſions which characterize the more refined and civilized nations of Europe. The practitioners of phyſic are neceſſitated, in many parts of the country, to attend in caſes which belong more immediately to the province of ſurgeons and apothecaries than to that of phyſicians.

The first remarkable incident that presented itself to the notice of Dr. Perkins, was the sudden contraction of a muscle, when he was performing a chirurgical operation.—This he observed regularly took place whenever the point of the metallic instrument was put in contact with the muscle. Struck with the novelty of the appearance, he was induced to try the points of wood, and other substances; and no contractions taking place on these experiments, he thence inferred that the phenomena could be ascribable only to the influence of the metal.

About the same time he observed, that in one or two cases, a cessation of pain had ensued when a knife or lancet was applied to separate the gum from a tooth, preparatory to extracting it; and in the same year he discovered, that momentary ease was given in a few instances, by the accidental application of a metallic instrument to inflamed and painful tumours, previous to any incision.

While these, and a few other cases of a similar nature, in which the perfectly tranquil state of the patient's mind, with every attending circumstance, precluded the possibility of a fallacy, were engaging his attention, the news of the late important discovery of GALVANI, the celebrated professor

feſſor at Bologna, relative to the ſurpriſing effects of metals on the nerve and muſcular fibre, confirmed him in his hypotheſis *.

From

* Since the publication of the experiments of GALVANI, very numerous have been the attempts of ſubſequent phyſiologiſts to improve on his diſcovery. Among others, Valli, Volta, Fowler, Monro, and Cavallo, have favoured the public with their reſearches into this intereſting ſubject.

Cavallo, one of the lateſt of theſe experimentaliſts, after citing moſt of the important experiments of the gentlemen who have written before him, together with the addition of his own, comes to the following concluſion:

" The principal phenomena of animal electricity, viz. the property of being put in motion by a metallic communication made between the nerves and muſcles, is not peculiar to a few animals only, but ſeems to be a property of all animals in general; a law of nature which admits of few exceptions, and even theſe exceptions are of a very doubtful nature.

" The experiments have already been tried with a great variety of terreſtrial, aerial, and aquatic animals.

" The human body, whilſt undergoing certain chirurgical operations on its recently amputated limbs, have been convulſed by the application of metals. From the ox and the horſe down to the fly, the effects of metallic applications have been repeatedly and unequivocally obſerved. With ſome the power laſts longer than with others; the movements alſo are more or leſs evident and powerful, according to the various nature and diſpoſition of the animals.

" The leg of a recently dead horſe was agitated ſo violently by the application of a ſhilling and a bit of tin-

From this period he began to turn his attention to this his favourite purſuit, and ſought with cagerneſs for ſubjects which might enable him to aſcertain the power of metallic influence when applied to the diſeaſes of the human body.

foil, that the ſtrength of a robuſt man was unable to check the blow. Several animals, which ſome time ago were thought not to be affected by the contact of metals, have been lately cauſed to contract, in conſequence of the diſcovery of more active metallic combinations, or of ſome of their more ſenſible parts.

" The preceding pages contain all the remarkable facts that I have been able to collect, relative to a ſubject which is likely to become of great importance. Thoſe ſurpriſing effects of an unknown cauſe, generally inexplicable, and ſometimes contradictory, ſeem to admit of no theory ſufficiently probable or ſatisfactory; nor can we yet ſee how they may be applied for the benefit of mankind. An attentive conſideration of the ſubject will naturally ſuggeſt ſome doubts and queries which can only be anſwered by future experiments and diſcoveries. In what manner does artificial electricity affect the muſcles? Does it act as a mere ſtimulus or otherwiſe? Where is the animal electricity generated, and by what mechaniſm is it tranſmitted from one part of the body to the other? Does it proceed from the brain, or is every nerve actuated by that generating power? What reaſon can there be for the neceſſity of uſing two different metals? And, after all, are theſe phenomena really the effects of electricity, or of ſome other unknown fluid, *ſui Generis*." *(Complete Treatiſe on Elect. vol. iii. page* 69.)

In

In the courſe of an extenſive practice theſe were frequently found, on which he never failed to make ſuch experiments as were calculated to accompliſh his object.

He proceeded to make Inſtruments of what are called the perfect metals as well as of the baſe ones, and likewiſe of various compound metals, and tried them all, ſometimes with leſs and ſometimes with more ſucceſs, than he had ever hoped or expected. Theſe experiments he continued for ſeveral years; convinced from what he had already noticed that he was right in his principle, and ardently hoping that further experiments, and obſervations, would enable him to apply it to the alleviation of human affliction, and the general benefit of mankind.

The reſult corroborated and indeed exceeded his moſt ſanguine expectations; for he diſcovered that, by drawing over the parts affected in particular directions certain inſtruments which he formed from metallic ſubſtances into certain ſhapes, he could remove chronic rheumatiſm, ſome gouty affections, pleuriſies, inflammations in the eyes, eryſipelas, and tetters; violent ſpaſmodic convulſions, as epileptic fits; the locked

jaw; the pain and ſwelling attending contuſions; inflammatory tumours; the violent pains occaſioned by a recent ſprain; the painful effects of a burn or ſcald; pains in the head, teeth, ears, breaſt, ſide, back, and limbs; and indeed moſt kinds of painful topical affections, which came under his care and obſervation. The inſtruments producing theſe effects are termed TRACTORS.

At this period, viz. about the cloſe of the year 1795, Dr. Perkins was chairman of the Medical Society in the county of Windham, and was its firſt repreſentative in the general Medical Convention, which conſtituted him a Fellow of the *Connecticut Medical Society* *.

To

* The Connecticut Medical Society is compoſed of moſt of the reſpectable phyſicians in that ſtate. Theſe phyſicians hold quarterly meetings in the ſeveral counties where they reſide, having a chairman and other officers neceſſary for their aſſociation.—Theſe county ſocieties, as compoſing a part of the Con. Med. Soc. ſemi-annually ſend repreſentatives to a general meeting, which being formed of delegates from each county in the ſtate, is called the Connecticut Medical Convention.

The object of this, as of ſimilar aſſociations, is to receive communications relative to any important improvements or diſcoveries, and by giving them publicity, thereby promote the advancement of medical knowledge. ENEAS MUNSON, M. D, is preſident of this important inſtitution, whoſe long

and

To this Convention he ſoon after reported his diſcovery, and perhaps from its novelty and apparent ſimplicity this report was received by ſome with doubt and caution, and by others even with contempt. The firſt impreſſion on theſe gentlemen was, that the operation of the *Metallic Influence* was a mere revival of *Animal Magnetiſm*. He was, however, requeſted to make a further communication on the ſubject at the enſuing meeting, which was to convene ſix months afterwards.

The ſubject by this time began to excite public attention and general curioſity. By thoſe only who had ſeen or experienced the effects of the *Tractors* were they credited, while thoſe who judged only from rumour conſidered the metallic operation as a renewal of *Meſmer*'s treatment, and the ſhafts of ridicule were thrown at the diſ-

and extenſive practice in his profeſſion, and whoſe ſucceſs in treating the yellow fever at New Haven in 1794, and publication on that diſeaſe, will ever bear teſtimony of his abilities and candor.

If the reader ſhould diſcover, that the conduct of ſome of the fellows of this Society has not altogether comported with the laudable object of its eſtabliſhment, he is deſired to obſerve, that, as moſt of them have had the candor to acknowledge their error, the cenſure ought not to be extended beyond the few individuals who merit it.

coverer, as the reviver of his exploded practice. With theſe men Dr. P. was ſuppoſed to have loſt his ſenſes; and his hypotheſis, which they have ſince honourably acknowledged to be founded on reaſon, and ſupported by experiment, was then eſteemed the deluſive dream of chimerical projection!

Shortly after the adjournment of the Medical Convention, to which I have juſt referred, Dr. P. influenced by the advice of his friends, and deſirous of being ſituated in a more extenſive field for exhibiting his diſcovery, repaired to Philadelphia. The public hoſpitals, alms-houſes, infirmaries, and other inſtitutions * which ornament that populous city, and do honour to its inhabitants, preſented excellent opportunities for making experiments on a variety of new caſes, and ſubjecting his hypotheſis to a ſeverer teſt. As Congreſs was now in ſeſſion, he performed his operations, not only in the preſence of the moſt eminent phyſicians, but alſo before the moſt diſtinguiſhed

* Since that period the *Tractors*, by order of the directors, phyſicians, &c. who attended the operations, have been purchaſed for the uſes of thoſe inſtitutions in Philadelphia, New York, Boſton, Newbury Port, Salem, &c. &c.

perſonages

perſonages of the Union. General WASHINGTON, then PRESIDENT of the United States, convinced of the importance of the diſcovery from experiments in his own family, availed himſelf of its advantages by purchaſing a ſet of the *Tractors* for their uſe.

The CHIEF JUSTICE of the United States *, ſeveral of the Senators and Repreſentatives in Congreſs, and other literary characters, honoured the diſcoverer with their attendance at a great variety

* Extract of a Letter from the Honourable OLIVER ELSWORTH, LL. D. Chief Juſtice of the United States, to the Honourable JOHN MARSHALL of Virginia, now one of the Envoys Extraordinary from the United States to the French Republic.

"Philadelphia, March 7th, 1797.

"Dear Sir,

"The gentleman who will deliver this letter is Dr. Perkins of Connecticut, a reſpectable phyſician and diſcoverer of the *Metallic Tractors* for the relief of pain. Strange as his hypotheſis may be, experiments give it countenance. In ſome caſes the effects wrought are not eaſily aſcribable to imagination, great and deluſive as is its power.

"Should there be caſes favourable for experiments in your vicinity he would be very ready to operate, and that in the preſence of perſons moſt competent to detect a fallacy,

riety of his experiments, as well as the medical gentlemen of Philadelphia and its neighbourhood.

In the preſence of ſuch honourable and accompliſhed judges, Dr. Perkins operated at the hoſpitals, &c. on patients afflicted with pains and inflammations in almoſt all their variety,

fallacy, if there is one; or, on the other hand, to extend the improvements, if, in fact, a new principle is diſcovered."

The author here takes the liberty to add an extract of a letter from the Rev. SAMUEL MACAW of Philadelphia, D.D. Fellow of, and Secretary to the American Philoſophical Society, &c. to the Right Rev. Biſhop MADDISON of Virginia.

"Right Rev. Sir, March 6th, 1797.

"This will introduce to your perſonal acquaintance a very reſpectable perſon, Dr. Perkins of Connecticut, if in the courſe of his journeying he may viſit Williamſburg, and have it in his power to wait on Biſhop Maddiſon.

"The Doctor, by a felicity of genius and inveſtigation, has, it would ſeem, opened a highway to healing influences, which promiſes fair to conſtitute a new æra in the Medical Annals. His *Metallic Tractors*, their uſes and efficacy, in a vaſt variety of caſes, have gained him great celebrity; and I am diſpoſed to think, even from what I have *known myſelf* of their deſert, a celebrity not precarious, unfounded, or fugitive, &c. &c."

and

and I believe I may ſay to the general ſatisfaction and ſurpriſe of the ſpectators. Diſeaſes of the moſt obſtinate nature, which had baffled medical art, were removed by the *Metallic Tractors:* and many perſons of an advanced age, who had been crippled for years with the chronic rheumatiſm, were, in ſeveral inſtances, perfectly cured.

By moſt of thoſe who witneſſed the ſurpriſing effects of theſe operations, the diſcovery was conſidered as one of the moſt happy and important that has ever been made for the benefit of mankind. The many ſtubborn and indiſputable facts, which demonſtrated that the operations had no ſimilitude whatever to Animal Magnetiſm, began now to remove prejudices, and gain it reputation.

By many of his beſt friends, the diſcoverer was ſtrenuouſly adviſed to avail himſelf of the advantages of the *patent* law, which was framed for the purpoſe of "promoting the progreſs of uſeful arts," and to ſecure to himſelf the advantages derivable from what they conceived ſo happy a diſcovery. As he had a large family, had put himſelf to conſiderable expence in purſuing his ideas to this pleaſing reſult, and, by neglecting all

his other concerns for the profecution of his favourite object, had injured his circumftances, he at length determined on this meafure, and accordingly took out a patent in the United States.

By this patent the " exclufive right of making, conftructing, ufing, and vending to others to be ufed, his *pointed metallic inftruments*, in removing various pains, &c. is granted to Dr. Perkins, his heirs, adminiftrators, and affigns, for fourteen years;" and all other perfons are inhibited to make or ufe his inftruments without his licence.

Having effected this, and furnifhed a number of perfons of the firft character then at Philadelphia from all parts of the Union, with his *Patent Metallic Tractors*, he determined to return to Connecticut, to fettle his affairs, and to refign every other purfuit, in order perfonally to exercife his new art in various parts of the United States, and thereby diffeminate a knowledge of its importance.

Some time prior to making his difcovery public, Dr. Perkins had been engaged in a controverfy on a medical fubject with fome of the members of the Connecticut Medical Society. Such

controverfies

controverſies in that country * are frequently carried to ſuch lengths, that the combatants become perſonal enemies; and it ſeldom happens that the vanquiſhed can forgive the conqueror.

At this time the recollection of their former diſagreement was freſh in the breaſts of Dr. P.'s

* Whoever has read the Philadelphia Gazettes during the late diſtreſſing calamity of the yellow fever, will readily perceive the prevalence of this unhappy diſpoſition among the medical men of the United States. The well known outrages, in conſequence of the controverſy between Dr. Ruſh and Dr. Currie, committed by both their parties, during the autumn of 1797, have not done honour to that benevolent philoſophy which is characteriſtic of an enlightened age and a civilized people. Among men where the more *weighty arguments* of the *club* and *cane*, and thoſe ſucceeded by *challenges*, have aſſumed the place of fair, candid, and friendly diſcuſſions, becauſe there happens to be a trifling difference in opinions, we muſt not be ſurpriſed, or even complain, if an inſtance occured in which an haſty and illiberal deciſion had taken place on a medical ſubject, which related to a very material innovation, more eſpecially as this innovation was attempted by a perſon very obnoxious to the party which aſſumed the power of deciding. For the particulars of an encounter of the above deſcription, ſee Mr. Ruſh's defence of his conduct in laying *violent hands* on Dr. Roſs, a friend of Dr. Currie's. The good maxim of Salluſt would be attended with happy conſequences, if obſerved by the medical profeſſion in America:

"*Concordia parvæ res creſcunt.*"

antagoniſts;

antagoniſts; and when it was known that he was gone to Philadelphia, and was there making experiments with his *Tractors*, theſe gentlemen endeavoured in his abſence to effect his ruin. When men are once determined on making a ſacrifice, it is eaſy to gather ſticks from the thicket with which to offer up the victim.

The tongue of ſlander was now let looſe againſt the influence of the *Tractors*, and reports fabricated to detract from the merits of the diſcovery. So effectually did theſe *liberal-minded brethren* exert themſelves againſt the diſcoverer, that, by the next meeting of the medical ſociety, they had actually formed a party to diſgrace him in his abſence.

Before he could return to Connecticut, and make to the ſociety the further communication which he had at its laſt meeting been appointed to do, the convention aſſembled, and without waiting for ſuch communication, without even attending to a ſingle operation, or acquiring the leaſt knowledge of the principle or practice of the diſcovery (except the little that had been ſaid to them ſix months before) and without ſeeing a ſingle ſet of the *Tractors*, they actually paſſed a

vote,

vote, written and prepared by Dr. Perkins's enemies ſome weeks before-hand, pronouncing it the remains of animal magnetiſm: and in order further to deter any of their members from aſcertaining the merits of the diſcovery by experiments, they "directed their Secretary to cite *any* member of their ſociety practiſing as above (*i. e.* uſing the *Tractors*) before them at their next meeting, to anſwer for his conduct, and render reaſons why he ſhould not be expelled the ſociety for ſuch diſgraceful practices." This vote was of conſiderable length, and was couched in terms which would far better have become the perſecutors of a *Copernicus* and a *Galileo*, in an age of ignorance and ſuperſtition, than thoſe who would fondly be conſidered as the patrons of ſcience and philoſophy in the enlightened æra of the eighteenth century. In juſtice, however, to the reſpectable inſtitution to which thoſe gentlemen belonged, it is neceſſary to obſerve, that the convention was very thinly attended, and conſiſted of few beſides the profeſſed enemies of Dr. P. Neither Dr. *Munſon* their Preſident, a gentleman whoſe ſuperior eminence in his profeſſion is equalled only by his reputation as a philoſopher and a man of letters, nor any of the repreſentatives from the medical ſociety of the county in

which

which the diſcoverer reſided, were then preſent, though they were the only members at that time capable of deciding on the merits of the diſcovery.

Dr. Perkins, returning a few weeks after from Philadelphia, afforded theſe gentlemen an opportunity of wiping away the ſtigma which had been caſt on them by the unprecedented conduct of a few. All of theſe, notwithſtanding the dreadful *veto* that had been pronounced againſt it, immediately provided themſelves with the *Tractors*, and eagerly ſought for ſubjects which would afford them means of bringing the practice to a proper teſt, determining that, when they reported they would be able to defend their deciſion by the ſound logic of experiment. After a ſufficient time had elapſed for aſcertaining the truth, their reports were publiſhed, and the reſult * was as honourable and ſatisfactory to the diſcoverer, as it was diſgraceful and irritating to his enemies.

The limits, as well as the object of the preſent publication, will not allow me to enter at large into a detail of the evidences which thoroughly ſatisfied all who experimented with the *Tractors*,

* See their Experiments in the latter part of this Tract.

that

that no analogy or affinity exiſted between the operations of the metallic influence, and the exploded practice of animal magnetiſm. But a few of the moſt intereſting facts which led to this deciſion, ſhall now briefly be recited.

On the ſubject of *Animal Magnetiſm*, it was conceived that no information ſo authentic could be obtained, as that of the report of the commiſſioners at Paris (Dr. FRANKLIN at their head, and LAVOISIER one of their number) appointed by the late Lewis XVI. for the expreſs purpoſe of aſcertaining the merits of the practice. This enquiry, undertaken by the greateſt philoſophers of the age, was conducted with ability and candor, and the reſult is univerſally known to have been an exploſion of the doctrine, and a cenſure upon its inventor. It was found that the effects produced by *Meſmer*, were not owing to any newly diſcovered law or principle in nature, as he pretended, but ſolely aſcribable to the influence of "*compreſſion*, *imagination*, and *imitation**." Among the numerous experiments made by the commiſ-

* Some of the ſubſequent practiſers of this art, have pretended to produce ſome effects unaſſiſted by compreſſion or imitation.

ſioners, accompanied by M. *Deſlon*, the pupil of Meſmer, " not more than one perſon out of five experienced any ſenſations at all, and theſe were ſubjects extremely irritable, extremely nervous, and generally females;" and on them the effects were not ſalutary, ſuch as a tranſition from pain to eaſe, a reduction of tumours, removing inflammations, &c.; but, on the contrary, the treatment in Animal Magnetiſm " produced pains, attended with dangerous ſymptoms, ſuch as ſpitting of viſcous humours, and even blood; coughing, hiccoughing, agitations, and convulſions; ſtriking of the breaſt with precipitate and involuntary motions," &c. Theſe effects uſually took place antecedent to what was called the *Criſis*.

It was demonſtrated by the commiſſioners, that " all theſe effects were the plain and rational reſult of the various applications, as the *touch*, the hard and continued *preſſure* upon the hypochondres, on the lower regions of the belly, and other very ſuſceptible parts of the body; added to the influence which a ſhew of ſolemn preparations and well adapted muſic *, might have upon the mind

* To aid the deluſion, and aſſiſt in giving theſe farcical ſcenes the appearance of reality, nothing could have been more

mind of a patient inſpired with confidence and enthuſiaſm."

Having obtained every neceſſary information from this report, the medical gentlemen, who were attempting to inveſtigate the merits of the *metallic influence*, next directed their attention to diſcover, if any affinity or reſemblance could be found between the operations of Dr. Perkins and the treatment of Meſmer.

After almoſt innumerable experiments, which were made on ſubjects of all deſcriptions, as it reſpects their diſeaſes, ages, or ſtations in life, and, in ſhort, diverſified with every variety which occurred to them; it was acknowledged that there could be no reſemblance found, either in the modes of application, or in the effects which were produced, between the operation of the *Tractors* and animal magnetiſm. It was obſerved, that the

more admirably planned than the introduction of the *piano forte*, which was continually playing tunes on keys that correſponded with the changes which, it was intended, ſhould take place in the animal ſpirits of the patient.

There are but few perſons who have not a thouſand times experienced the powerful effects of muſic, and realized their ſuſceptibility of its influence.

author of the diſcovery of the metallic influence, always ſought opportunities for performing his operations in the preſence of philoſophers and men of ſcience, "who ſhould be competent to detect a fallacy, if there was one; and, on the other hand, to extend the improvement, if, in fact, a new principle is diſcovered *."

It was found that the diſeaſes, in which the operation of the metallic influence was moſt ſucceſsful, are directly oppoſed to, or very different from, thoſe in which animal magnetiſm had produced effects. Highly nervous complaints, attended with debility, in which the latter chiefly appeared effective, have rarely been relieved by the former; alſo none of thoſe dangerous or ridiculous ſymptoms, which in animal magnetiſm were ſaid to be preparatory to a criſis, took place here; nor any thing which bore the leaſt reſemblance to the *criſis* itſelf. The pains, inſtead of requiring an operation of two hours or more, as was the caſe in Meſmer's treatment, are generally removed by the *Tractors* in the courſe of twelve minutes; and inſtead of their being ſucceſsful only among the lower claſſes of mankind, who are moſt ſubject to cre-

* See Judge Elſworth's letter in note, page 9.

dulity

dulity and impoſition, they have hitherto been chiefly uſed among men of ſcience and reſpectability, who have often been diſpoſed, at firſt, to treat them with ridicule and contempt, from a perſuaſion that the operations were all a fallacy.

The circumſtances under which the *Tractors* produce no effect, alone ſufficiently prove that a phyſical cauſe, independent of the power of imagination, is concerned in the operations; as for inſtance, relief from pain has never been procured by them, on parts of the body to which any * oily applications, or where any adipoſe ſubſtances have been recently employed.

Indeed,

* The obſtacles which oil preſents in exciting muſcular motion, or the animal electricity, is particularly mentioned by Galvani, the diſcoverer of *that influence*. (*De Viribus El. in m. m. p.* 22.)

Dr. Fowler alſo, whoſe ingenious experiments on the ſame *influence* have ſucceeded thoſe of Galvani, has the following remarks. (*Exp. and Obſ. on Anim. Elect. p.* 18.)

" *Oils* of all kinds are ſo far from conducting, that if the fingers of the perſon holding either the probe or the zinc have perſpired much, even this operates as a complete obſtruction to the paſſage of the influence. The inſtant the perſpired matter has been wiped away, and the fingers have been dipped in water, it again excites contractions. When

Indeed, perſpiration itſelf is ſo effectual a barrier to the metallic influence, that the *Tractors* have never been uſed to ſo much advantage in the warm ſummer months of America, when the hands of the operator, and the ſkin of the patient, are generally covered with it. But if the part be thoroughly waſhed, and the oil, adipoſe, or perſpirable matter be perfectly removed, relief will be immediately obtained. Chronic pains, after an injudicious uſe of mercury, or old pains, which are the effects of a venereal complaint, even where no mercury has been uſed, have never been radically removed by the metallic influence.

Another ſingular phenomenon occurred, viz. That in ſome inſtances the metallic influence, when excited by different perſons, produced different effects. This fact, however extraordinary it appeared, and however ſtrenuouſly it was at firſt oppoſed, is now univerſally acknowledged. Experiments were made to aſcertain this point with ſuch accuracy, as to preclude the poſſibility

the inteſtines of a frog are removed, and its abdomen is filled with oil, no contractions can be excited by placing one metal upon its ſciatic nerves, and bringing another in contact with it, either above or below the ſurface of the oil."

of a fallacy; and the reſult proved, that there were perſons who might uſe the *Tractors* for any length of time, in diſeaſes which were ſuitable for the operation, and produce no perceptible effect; when by placing them in the hands of another perſon, who ſhould perform the operation preciſely in the ſame manner as before, the pain or inflammation would be removed directly. It is true, this ſingular property is characteriſtic but of few, yet among the great number who have purchaſed the *Tractors* in America, there are ſome who have never performed a cure. Theſe gentlemen, whenever an operation is required, put the *Tractors* in the hands of a bye-ſtander, who applies them under their direction, and the uſual ſalutary effects are the immediate conſequence.

This curious fact has been mentioned, by the writers on the philoſophy of the metallic influence, as a proof of its analogy * to the influence diſcovered by Galvani.

I ſhall

* See the experiments of profeſſor Volta, relating to the various effects of the metals when applied to the ſenſe of *taſte*.

Cavallo, alſo, when ſpeaking of the influence of metallic applications, which are rendered ſuſceptible to the *taſte* and

I ſhall next enumerate ſome of the diſeaſes which were found to be ſuitable ſubjects for the metallic operation; and thoſe who have experienced or underſtand them, will eaſily judge whether the imagination can have any influence in their cure. Can the imagination cure a *gout?*—remove, almoſt inſtantaneouſly, the ſpaſms of an *epileptic* fit, when the patient is diveſted of every exerciſe of reaſon? or the contractions of a *locked jaw?*—Can imagination remove the *pains* and *inflammations** of the *eyes?*—reduce *tumours*,

ſight, has the following remarks, "Different perſons are variouſly affected by this experiment." [*Application of zinc and ſilver to the tongue.*] "With ſome the *ſenſation* or *taſte* is either very ſlightly or not at all perceived, whilſt with others it is very ſtrong, and even diſagreeable. Some think it a mere pungency and not a taſte." "When the experiment was applied to the ſenſe of ſight," he ſays "this phenomenon is not alike perceived by every perſon, ſome being hardly ſenſible of it, whilſt others obſerve a very ſtrong flaſh.

"In performing both of the above-mentioned experiments, viz. that which produces the taſte, and the other which produces the flaſh of light, ſome perſons imagine to feel a gentle warmth diffuſe itſelf over the tongue from its root to the very apex." *Cavallo's Complete Treatiſe on Elect. vol. iii. page* 58.

* See the effects of Galvaniſm on inflammations, in *Fowler's Exp. & Obſ. on Anim. Elect. page* 87, *and* 128, 129.

as the *quincy*, *boils*, and *whitlows*, if applied before a ſuppuration has taken place?—remove the ſevere *inflammations*, *pains*, and *tumors* of the *ſtings* and *bites* of poiſonous inſects?—or of *burns* and *ſcalds*, and thoſe on an infant?—or *inflammations* of *ringworms*, *tetters*, and *eryſipelas*? Or can imagination cure the lameneſs of a brute*? Theſe are ſome of the afflictions which the *Tractors* generally cure.

It may be naturally conceived, that the evidence exhibited muſt have been powerful and

* I once ſaw a horſe, which, in conſequence of a ſtrain in the paſtern, had become exceedingly lame, and from the intenſe heat of the hoof on that foot, and the actions of the animal, was ſuppoſed to be in great pain, completely relieved in the courſe of ten minutes by the operation of the *Tractors*; the hot hoof becoming of the ſame temperature as that of the other. From being ſcarcely able to put his foot to the ground, he became ſo much better in about twelve minutes from the time the metallic inſtruments were firſt applied, that a gentleman mounted him and rode away, being but juſt able to perceive his lameneſs.

I have heard of other ſimilar inſtances, but this is the only one which has come under my perſonal obſervation.

I have frequently, however, heard of the little painful ſwellings on the back, generally termed *ſaddle boils*, being cured by the operation of the metallic influence.

concluſive,

concluſive, to induce the members of the Connecticut Medical Society, individually, to come forward and declare their ſentiments to the world in favour of the operation of the *Tractors*, when they thereby openly violated an act of their ſociety, and hazarded the ſtigma of an expulſion.

The *Sceptic*, although unable to account for a thouſand of the daily occurrences of life, doubts and queſtions the reality of newly diſcovered principles, cauſes, and effects, in oppoſition even to the teſtimony of ocular demonſtration, becauſe he cannot comprehend them with a Creator's eye; but the real philoſopher willingly acknowledges the exiſtence of a fact, whenever it is demonſtrated to him by competent and ſufficient evidence. The teſtimony which was by this time adduced, in ſupport of the effects produced by the metallic operations, was of a nature ſo reſpectable and incontrovertible, that many of thoſe, who were at firſt perſuaded to join in the general ridicule, were now candidly diſpoſed to aſcertain the truth or fallacy of the doctrine, by the teſt of fair experiment. And, thus convinced, many of the Fellows of the Connecticut Medical Society, honourably acknowledged the error of

the Convention, in acting ſo precipitately on a ſubject of ſuch great importance. Preſident MUNSON himſelf read before the Society, convened at New Haven, a learned and ingenious Diſſertation on the ſubject of Animal Magnetiſm and Animal Electricity. After giving an hiſtorical account of the impoſitions of *Meſmer*, and according with the juſtice of the report of the commiſſioners in France, to which I have before referred, he inſtanced the late important diſcoveries of *Galvani*, and the ingenious experiments of *Valli*, *Volta*, *Fowler*, *Monro*, and *Cavallo*, in animal electricity; and concluded with the following remarks: "After all theſe diſcoveries of the exiſtence of a certain *influence*, by whatever name it is called, in the nervous ſyſtem of animal bodies, which has properties, and is ſubject to the ſame laws, in many reſpects, with the electrical fluid, and which may be excited or educted by the application of metallic ſubſtances, would it appear ſtrange to a philoſopher, or would it exceed the credulity of a well-informed phyſician, that *Metallic Points* *, applied to perſons diſeaſed with pain, had given relief?—To none, I imagine, who believe in the exiſtence of ſuch an *influence*,

* The tractors have often been called 'metallic points.'

which

which I know to be demonſtrable beyond all contradiction.

" Is it not much ſtranger to common ſenſe, that philoſophers, or phyſicians, ſhould be ſo obſtinately ſceptical as to diſpute facts atteſted by the moſt reſpectable characters, merely becauſe they have never been able, *a priori*, to account for the effects produced? Is it becoming a philoſopher, or phyſician, to treat a diſcovery ſo important and well atteſted, with ridicule, buffoonery, and contempt, becauſe it is new, or becauſe they cannot account philoſophically for it themſelves? If it is unbecoming an individual to cenſure a diſcovery or invention *before trial*, and without a candid inveſtigation, how much more ſo for a *Society* incorporated for the expreſs purpoſe of *inveſtigation* and *improvement* in the knowledge of the healing art!

" The gentleman who has made the diſcovery of a new application and mode for the relief of the pained and afflicted, before he communicated his diſcovery, was thought a worthy member of the General Convention, a Fellow of the Connecticut Medical Society. Whatever advantages the gentleman might have had, from the experiments

ments made in Europe, ſtill his application of metallic ſubſtances for the removal of diſeaſes, muſt, I conceive, be acknowledged at leaſt an improvement on their diſcoveries, and ſomething peculiar to himſelf; and I conceive it to be a diſcovery capable of great improvement for the benefit of mankind. It is certain, there are facts of its influence too notorious, and ſupported by ſuch indubitable teſtimony, that it is futile to imagine it can be hiſſed out of exiſtence—mankind will not be laughed out of their ſenſes.

" Let every member of the medical ſociety make a *candid* trial with the *patent Tractors*; keep a regiſter of their experiments, and in many inſtances I doubt not but they will prove efficacious in the removal of diſeaſes, and will effect it according to the old adage, *cito, tuto, et jucunde* *."

The public ſentiment being now univerſally diſpoſed to acknowledge the importance of Dr. Perkins's diſcovery, thoſe few members of the convention, who began the oppoſition, had now recourſe to another meaſure, by which they intended to have torn from his brow the laurels he had ſo juſtly acquired, and with them adorn the

* *Quickly, ſafely, and pleaſantly.*

buſt

buſt of another. For this purpoſe, they induſtriouſly reported that the diſcovery did not originate with Dr. P. but that he gained it from a neighbouring phyſician; and as that gentleman was dead, they ſuppoſed that the truth could never be explored. It was well known, that the gentleman alluded to was a man of very ſuperior talents, and that electricity was his favourite ſtudy; it was alſo known, that he was on the moſt intimate terms with the diſcoverer for many years before his death. But it was found upon enquiry, that none of his medical pupils, of which he had a large number, or any other perſon, had ever heard from him, or ſeen any thing in his practice, ſimilar to the operations of Dr. P. except once, when he attempted to remove the pain from a tooth by applying a ſimple metal, which he then called Dr. Perkins's remedy.

This ſubterfuge being expoſed, a rational man would have conceived that thoſe *anti-innovators*, more eſpecially after the rebuke contained in their Preſident's diſſertation, and the various other publications of the ſame nature, would have effected the beſt retreat they could; but, like ſome of the heroes of the Chevy-chaſe, although completely vanquiſhed, they would not yield:

" But when their legs were ſmit away,
" They fought upon their ſtumps."

In

In May laſt, 1797, theſe gentlemen again aſſembled, but found it impoſſible to proceed on the grounds of their former reſolution, without diſſolving the ſociety: for if they proceeded to the expulſion of every one who had engaged in theſe "*diſgraceful practices*," they would have to pronounce judgment againſt one half of the members, with the Preſident at their head; and, as the reputation of the metallic operation was now completely eſtabliſhed, not only by the publications of the experiments made by moſt of the literary characters of the United States, but by the members of their own ſociety, they were compelled to give up their firſt point, viz. that the practice was a revival of Animal Magnetiſm. However, a fertile imagination ſuggeſted new grounds for accuſation, on which they did not heſitate to paſs ſentence. The dreadful charge againſt Dr. P. now was, that he had "obtained a patent under the authority of the United States, for the excluſive privilege of uſing and vending certain pointed Metallic Inſtruments, which is contrary to the rules and regulations of their ſociety, interdicting their members the uſe of Nostrums!"—So ridiculous were the reaſons given by theſe gentlemen, and ſo *hard puſhed* were they to find cauſe for accuſation, that their very charge

carried

carried its own refutation with it. It certainly did not require a profundity of learning to diſcover, that by the term *Noſtrum* is meant a ſecret medicine, the ingredients of which are known only to the poſſeſſor; whereas a *patent*, which they acknowledged to have been obtained, effectually diſcloſes the ſecret, by the ſpecification which is obliged to be lodged in the patent office, and expoſed to the view of any perſon who has the curioſity to read it.

As moſt of the literary characters in the United States at this time had been in poſſeſſion of the *Tractors* more than a year, they were fully prepared to report the reſult of their numerous experiments; and many gentlemen, eminently diſtinguiſhed as phyſicians, philoſophers, and divines, forwarded to the diſcoverer their various experiments, with an intention that they ſhould be publiſhed to the world. For the firſt time, in June laſt, Dr. P. publicly noticed the conduct of his oppoſers, and this he did by giving their reſolutions every poſſible publicity, adding them to a few of the numerous communications he had received from all parts of the United States, as further proofs of the reality and efficacy of his diſcovery; their laſt vote being an indirect acknowledgment

ledgment of the utility of the metallic influence *.

I have dwelt more particularly on the vote of ſome of the members of the Connecticut Medical Convention, becauſe that, among the deciſions of learned inſtitutions, is the only inſtance in which the efficacy of the *Tractors* has ever publicly been queſtioned in the United States.

The novelty and ſimplicity of the operation of the metallic influence, added to thoſe prevailing pre-

* It is with no ſmall regret that it falls to my lot to detail facts, which reflect a ſtigma on ſome gentlemen of the medical profeſſion in the United States. Although this diſpoſition for diſſenting is more general than I could wiſh to acknowledge, yet in the *preſent* inſtance but a very ſmall part of the above ſociety was concerned in thoſe extraordinary proceedings. Of more than *two hundred* members which compoſe the ſociety, not more than *twenty* were preſent on that occaſion; and the major part of theſe were perſons who had been engaged in a former controverſy with the author of the diſcovery of the metallic influence, and have ever ſince been his avowed enemies. Several members, in conſequence of thoſe votes, were ſo diſguſted that they have ſince abandoned the meetings. The ſociety, collectively conſidered, is an extenſive and reſpectable inſtitution, and many of its members are gentlemen of the higheſt merit.

judices againſt external applications in the treatment of diſeaſes, in conſequence of the impoſitions practiſed in animal magnetiſm, I am ſenſible, will excite at firſt not only ſcepticiſm but ridicule; yet I flatter myſelf neither of theſe will be found among the more learned or candid of philoſophers.

We frequently hear men, whoſe wiſdom is perhaps confined to their ſignificant looks and manner of expreſſion, obſerve, on a relation of any newly diſcovered phenomena, that "Theſe things *cannot* be: I know of no principle, or poſſible operation in nature, by which ſuch effects can be produced." As if the great Creator of the Univerſe had made no laws relating to the œconomy of nature, which had not been communicated to them, and familiarized to their underſtandings. I ſhall take the liberty to obſerve, as a well known fact, that mere hypothetical reaſoning, unaccompanied by experiment, never accurately inveſtigated the properties of any medicine, or predetermined its effects upon the human body. Were the whole LITERATI of the age preſented with an *Acid* and an *Alcali*, could they, by any ſpeculation on the ſubject, ſo far diſcover their properties, as to infer that the union of them would produce in many caſes a diſcharge

of

of calorific matter, and compound a *neutral ſalt?* As well might we expect that the quarry ſhould yield the poliſhed ſtatue without the labour of the artiſt, as that the human mind, by its reaſoning powers alone, ſhould be able to predicate on effects of this nature without the teſt of experiment.

Convinced that the reader will agree with me that facts are better than argument, I ſhall proceed to the Experiments. No particular order is obſerved in the arrangement of the Caſes, as it did not occur to me that it was neceſſary.

I would only further obſerve, that the following experiments are not introduced ſolely with a view to eſtabliſh the reputation of the Metallic Influence; but rather that I might complete the firſt deſign of this publication, which was to give an hiſtorical ſketch of the origin and progreſs of the diſcovery. As theſe communications form a part of the incidents which eventually aſcertained the importance and reality of Dr. P.'s diſcovery, their immediate connection with the ſubject of this Tract, rendered it neceſſary to introduce them. I flatter myſelf I ſhall have the ſatisfaction, on being favoured with ſuitable ſubjects, of affording evidence, which

to every perſon muſt be more ſatisfactory than any teſtimony, viz. the evidence of the *ſenſes*.

As many of the following communications were of conſiderable length, I have generally extracted from them only the facts which reſulted from the experiments. The various ſpeculations upon the theory, may with more propriety be reſerved for ſome philoſophical treatiſe on the ſubject, ſhould ſuch an one hereafter be attempted.

Nothing need be ſaid of the reſpectability of the characters who have given their experiments; as moſt of them are known in Europe as eminent philoſophers, phyſicians, and authors, the reader muſt himſelf judge of the credit which ought to be given to their ſtatements.

EXPERIMENTS

AND

OBSERVATIONS

Communicated to the

AUTHOR of the DISCOVERY of the METALLIC INFLUENCE.

EXPERIMENT I.

By Mr. MEIGS,

Professor of Natural Philosophy, in the University of New Haven.

September 18, 1797.

"AS I am daily confirmed in the opinion that facts form the most valuable part of our knowledge, I think it my duty to communicate the following:

"In March last my son, about eight years of age, was seized with a complaint of the *peripneumonic* kind, attended with a violent pain in the left side, accompanied with a high fever and a severe cough.

" By the care of Dr. Munſon he was in three or four days ſo far reſtored, that on the fifth day he walked about the houſe. This probably expoſed him to a relapſe, for on the ſixth day he was ſeized with a return of the ſymptoms: his fever was higher, the pain of the left ſide was greater, attended with a ſoreneſs, which, whenever he coughed, forced him to cry out. He was obliged to lie on his back, being neither able to turn himſelf, or be turned. Dr. Munſon being again called, pronounced his caſe a hazardous one; after having preſcribed what he thought proper, ſuggeſted a trial of your *Tractors*. This I immediately undertook, and in about half an hour he declared his pain was gone, turned himſelf without difficulty on his right ſide, and fell into a profound ſleep, accompanied by a remarkably profuſe perſpiration, which burſted from every pore. After a ſleep of ſix or ſeven hours, he awoke in perfect health, and has continued ſo to this day.

" It appeared to me, that the marks of the points on his ſide were larger, more inflamed, and ſwelled, than could have been expected from the mere mechanical irritation of the metals applied ſo gently and lightly as in this caſe. This circumſtance I mention, becauſe it may perhaps aſſiſt in the formation of a theory on this ſubject.

" I have

" I have uſed the *Tractors* with ſucceſs in ſeveral other caſes; and although, like Naaman the Aſſyrian, " I cannot tell why the waters of Jordan ſhould be better than Abana and Pharpar, rivers of Damaſcus," yet ſince *experience* has proved them ſo, no reaſoning can change the opinion.

" Indeed the cauſes of all common facts are, *we think*, perfectly well known to us, and it is very probable that fifty or an hundred years hence, we ſhall as well know why your *Tractors* ſhould in a few minutes remove violent pains, as we now know why cantharides and opium produce oppoſite effects; viz. we ſhall know but *very little* about either, excepting *facts*. The world * will, notwithſtanding, continue trying to oblige the preſent and future Galileo's ſolemnly to renounce opinions, which, in ſubſequent periods, will be univerſally adopted. In ſpite of Eccleſiaſtical authority, the earth ſtill revolves on its axis, &c. &c."

* The reader will not require an explanation of the object of this remark, after what has before been ſtated relative to the reſolutions of the Connecticut Medical Convention. Profeſſor Meigs is an inhabitant of the ſame State in which thoſe proceedings took place.

EXPERIMENTS II.

Mr. WOODWARD,

Profeſſor of Natural Philoſophy in the Univerſity of Dartmouth, &c. &c.

" I HAVE made uſe of your *Tractors* in various diſorders, and beſides univerſally abating, and generally removing pains in the *head*, *face*, *teeth*, &c. I have found them uſeful in the *Salt Rheum* *. Only one opportunity has preſented for an effectual trial—that has cured the patient by three applications, which being known, ſeveral perſons affected with that diſorder have been at my houſe this week to have the experiment performed on them; the diſorders have abated on the firſt trial; and the preſent proſpect is, that cures will be effected for them by further uſe of the *Tractors*.

" A violent pain in the foot, proceeding from a *ſprain*, has been removed in a few minutes, ſo as not to return.

* This is a cuticular diſeaſe very common in the United States, much reſembling the itch, but not contagious, and is more local. It is probably a ſpecies of tetters or herpes.

EXPERIMENT III.

Communicated by the

Rev. WILLIAM ROGERS, D.D.

Profeſſor of Oratory in the Univerſity of Pennſylvania, &c. &c.

Philadelphia, June 1ſt, 1797.

"MR. MARAT of Philadelphia, was ſome time ſince afflicted with a violent *inflammation* in his left *eye*, accompanied with a ſevere pain, which extended through the head, and deprived him of reſt. The eye was entirely cloſed, and conſtantly diſcharging water. Several things were applied to give him eaſe, but to no purpoſe. I told him, on opening it gently with my fingers, it was too bad to be relieved by the *Tractors*, as it was entirely of a bloody colour, and all the parts contiguous greatly ſwelled and much inflamed; however, I would try their efficacy. I applied them a few minutes, and he began to open the eye. I continued uſing the *Tractors* for the ſpace of ten or fifteen minutes, when the pain and inflammation were entirely removed, and he opened his eye without difficulty. He returned

to

to his family wholly relieved, had an appetite for his food, and next day went to his accuſtomed labour. A few days after he had an inflammation in his right eye, attended with very conſiderable pain. I again applied the *Tractors*, and he was almoſt inſtantly relieved. From that time to this he has been, as to his eyes, as well as ever he was in his life."

I have uſed the *Tractors* in ſome other inſtances with ſucceſs.

EXPERIMENTS IV.

Doctors BAKER, HALL, LORD, and BREWSTER,

Repreſentatives of the County of Windham in the Connecticut Medical Convention,

and Fellows of the Con. Med. Soc.

Windham County, Aug. 16, 1796.

"FROM a variety of caſes which have occurred, not only in our own practice but in that of our neighbouring phyſicians, we are *fully convinced* of the utility of the Metallic Tractors, in removing various *pains*, *ſpaſmodic*, and *inflammatory affections* from the human body; and that the diſcovery is of importance to the healing art."

EXPERIMENTS V.

JOHN VAUGHAN, M.D.—M.P.M.S.

Fellow of the Medical Society of Delaware.

"I HAVE operated, in a few cases only, with your *Tractors*, for but few have offered since I possessed them. One case of *nervous* or *hysteric head-ach* perfectly cured.—A case of *odontalgia* relieved.—The third, a young man who had fallen nearly fifteen feet on the edge of an open ended hogshead, and received a considerable *contusion* in the umbilical region, with *tumefaction*.

"I bled him three times to little purpose; but after about two minutes operation with the *Tractors*, he exclaimed in extacy, "I am well—I am well—my pain is gone!" The pain, however, returned in a less degree; but in thirty or forty minutes went off entirely, and he went to work as usual."

EXPERIMENT VI.

Extract from the Report of

FREDERIC DALCHO, M. D.

Surgeon in the Army of the United States,

to the Honourable JAMES Mc HENRY, Secretary at War.

Dated Fort Johnſon, South Carolina,
29 March, 1797.

" IN a former letter I mentioned the indiſpoſition of Captain Kaltaiſen, the commanding officer of the garriſon; and as the application by which he has been relieved is worthy of notice, I have taken the liberty of reporting it to you.

" For about two years paſt he has been much afflicted with a *ſpaſmodic affection* on the left ſide of his head, and for ſeveral months it had become ſo very frequent and violent as to affect his ſenſes in a great degree.—All the variety of applications which have been made, afforded him not the ſmalleſt relief, and I doubted of his ever obtaining it at his advanced age*. A few

* Seventy-three years.

days

days ſince he was ſo violently attacked, that the intellectual functions were entirely deranged, and I apprehended very ſerious conſequences. In this ſituation I purchaſed a ſet of Dr. Perkins's patent *Metallic Tractors*, the firſt application of which held out the pleaſing proſpect of his entire recovery. After repeating it for a few days, he became perfectly eaſy and free from pain, and his mind reſtored to its natural ſtrength; no indiſpoſition remaining but what is conſequent on age."

EXPERIMENTS VII.

Dr. JAREB DYER,

of Canterbury,

Member of the Connecticut Medical Society, and Surgeon to the 21ſt Regiment.

Auguſt 10th, 1796.

"For ſeven years paſt I have been troubled with almoſt a conſtant *rheumatic pain* in my ſhoulder. For the two laſt years it has gradually increaſed

increaſed till it became very diſtreſſing, and has been attended with a ſtiffneſs to ſuch a degree, that I could not raiſe my hand to the top of my head without great difficulty. In June laſt I applied your *Tractors* myſelf to my ſhoulder, when it was in extreme pain. The pain, to my great ſurprize, wholly left me within ſix minutes, and my ſhoulder was freed from its former ſtiffneſs. I could move that arm and ſhoulder with as great eaſe as the other. The pain has once returned in conſequence of ſevere exerciſe, and it was immediately removed by applying the *Tractors*.

" I have alſo been frequently afflicted with a diſtreſſing *pain* in *my head* for twenty years paſt. It has uſually come on in the fore-part of the day, and continuing ten or twelve hours. About the time of the above operation on my ſhoulder, I applied the *Tractors* to my head when in ſevere pain, which was in a few minutes relieved, and the pain has not ſince returned. For three years before this application, I had not been three weeks at a time free from this complaint. From what I have *experienced*, and heard of the efficacy of the Metallic Influence, I doubt not but the diſcovery will prove of great utility to mankind."

EXPERIMENTS VIII.

Dr. RUFUS JOHNSON,

of Canterbury,

Member of the Connecticut Medical Society.

Auguſt 11th, 1796.

"In the courſe of my practice a few months paſt, I have made frequent experiments with the *Metallic Tractors*, and have, with but very few exceptions, ſucceeded to my ſurpriſe in removing *rheumatic pains*, *head-achs*, *pains* in the *face*, *ſpaſmodic affections*, and *inflammatory ſwellings* of the *throat*.

"The pains after being once eaſed, have in ſome inſtances returned; and then, by a repetition of the applications, have been wholly removed.

"From my *own practice*, and what I know of the practice of others, I conceive this method of removing pains a very *important* and *uſeful* diſcovery in the healing art; and I earneſtly wiſh that the *Tractors* may be generally diſperſed, that mankind at large may have it in their power, by theſe innocent means, to eaſe themſelves of many diſeaſes which baffle the efforts of medicine."

EXPERIMENTS IX.

Dr. THOMAS BACKUS,

of Plainfield,

Member of the Connecticut Medical Society.

Auguſt 9th, 1796.

"I was called, on the 4th ult. to attend a patient, by the name of James Crawſon, who, for about five years, has been frequently troubled with a ſpecies of *epileptic fits*. When I firſt ſaw him he had experienced, in the courſe of the day, twelve, each of which held him about fifteen minutes. I took from him fourteen ounces of blood; but diſcovering no happy effect, I applied the *Tractors* to his right leg, in which he uſually experienced the firſt attack of his fits. The whole limb immediately became limber and free from ſpaſm, and he ſoon revived without ſuffering a general convulſion.

"About twenty minutes after, I being out of his room, was informed that the ſymptoms of another fit appeared, and before I could operate on him he

he was univerſally convulſed, with an entire loſs of reaſon. I then drew the *Tractors* over his right leg again, ſix or eight times, when the ſpaſms immediately ceaſed, and his reaſon was inſtantly reſtored.

"In about half an hour he was ſeized with another, which was removed very much in the manner of the laſt, the Inſtruments not being applied until a general convulſion had taken place. I then ſeated myſelf on his bed, that I might be enabled to apply the means more ſeaſonably. Here I ſoon diſcovered the ſymptoms again, but by applying the *Tractors*, immediately the ſymptoms diſappeared. Several others, at intervals, commenced with their uſual ſymptoms, ſo contracting and cramping the right leg, that the utmoſt exertions of two men were unable to ſtraiten it, each of which were in leſs than a minute removed by five or ſix ſtrokes of the *Tractors*, before the ſpaſm had extended to the other parts of his body: the leg almoſt inſtantaneouſly becoming perfectly lax.

" By the requeſt of a number of gentlemen, who by this time had convened to behold this ſingular phenomenon, when the ſymptoms of a fit appeared I ceaſed to uſe the *Tractors*, that

we might determine, whether the above operations had prevented the general convulſions, which before their application had always ſucceeded the attack in his leg. Immediately he fell into a very ſevere fit, which appeared in one univerſal ſpaſm. In this ſituation I ſuffered him to continue a few minutes, which was long enough for the experiment, when, by applying the *Tractors* to his leg again, in leſs than one minute he was entirely free from every kind of ſpaſm, and inſtantly regained his reaſon. I ſtill continued by his ſide, and prevented ſeveral other general attacks, by operating at the beginning of the ſymptoms.

"About one hour and an half after the firſt application of the *Tractors*, the fits entirely ſubſided. He became very eaſy, and experienced none of thoſe diſagreeable ſenſations, which he ever had after former attacks of this kind. He had uſually been afflicted with theſe fits, except at a few intervals of twelve or fifteen minutes each, about twenty-four hours from the time they firſt commenced. It is therefore evident, that the influence of the *Tractors* not only ſhortened the fits, but leſſened their number, as at this time they continued not more than nine or ten hours from their firſt commencement,

commencement, and about an hour and an half after the firſt experiment. He has diſcovered none of that debility which has uſually ſucceeded his former attacks, and continues to this day enjoying better health than uſual."

EXPERIMENTS X.

SAMUEL H. P. LEE, M.D.
of New London.

Member of the Connecticut Medical Society.

"THE following caſes, are among the number which I have to inform you, were treated ſolely by the practice of your *Metallic Tractors*.

CASE 1ſt.

"A boy eight years of age, recovering from a bilious remitting fever, was attacked with a ſevere phlegmonic inflammation in one of his legs. On the ſixth day after its firſt appearance, when I was called in for advice, the whole leg was much tumefied; the tendons of the foot and leg

contracted, and the pain so violent, that he could gain but very little sleep. I applied the *Tractors*, and in a few minutes he declared he was much easier. After continuing the use of them for some time he fell asleep, and did not awake or make any complaint until the next morning, when I visited him, and found the whole tumor subsided nearly to its natural state. On repeating the same experiments the tumefaction totally disappeared.

" It is not improper to remark that, during the five days before I saw it, the family had applied a few common poultices, vinegar, spirits, &c. On the sixth day they declared the inflammation appeared to them greater than at any preceding period, and more painful. No other application, either external or internal, was used, but the *Tractors*, from that time.

CASE 2d.

" My little infant child was *scalded* with hot tea on the forehead, about three and an half inches in length, and three fourths of an inch in breadth, which raised a vesicle before I had time to apply any thing to it. The *Tractors* were solely used, and the whole redness disappeared. The blister

bliſter broke, and the liquor under it formed itſelf into a ſcabby ſurface. The next day the wound was perfectly circumſcribed to the part bliſtered; and the whole caſt off and left the ſecond ſkin perfectly entire, without the ſmalleſt appearance of ſuppuration or inflammation; and, what is extraordinary, it never appeared to give the child the ſmalleſt pain, itching, or ſmarting, and in appearance was ſo unlike a ſcald, that enquiries were made what it was that grew on the child's forehead.

CASE, 3d.

" A lady fell from her horſe and *diſlocated* her ancle, which remained ſeveral hours before it was reduced, by which it became very much *ſwelled*, *inflamed*, and *painful*. Two or three applications of the *Tractors* relieved the pain, and in a day or two ſhe walked the houſe, and had no further complaint.

" I have uſed the *Tractors* in many other inſtances, wherein they appeared to have very ſalutary effects; but as the uſe of them was accompanied with other remedies, I forbear mentioning them in this place."

EXPERIMENTS XI.

SAMUEL WILLARD, M. D.
of Stafford,

Member of the Connecticut Medical Society.

" SINCE I returned to Stafford, I have made trial of your *Tractors* with very happy ſucceſs, in a caſe of *rheumatiſm*, which had for a long time baffled all the remedies to which I myſelf and two other phyſicians had adviſed.

" The *wart** which I *burned* down when at your houſe, gave me no trouble, as to any ſenſation

* Dr. Willard, like moſt others, when the metallic diſcovery was firſt made public, was rather incredulous. Being however, from the various ſucceſsful operations, of which he daily heard, very deſirous of aſcertaining the truth or fallacy of the doctrine by perſonal experience, like a genuine philoſopher in the purſuit of truth, he determined on making an experiment, which would put the facts to a proper teſt, although at the expence of ſome pain. Having a very large wart on his finger, he heated red hot a piece of iron, applied it to the wart, and held it there a conſiderable time. As might be expected, the burn was very ſevere, much inflamed

ſation of heat, after you applied the *Tractors* to the inflamed part. I felt a ſoreneſs for ſeveral days after, but the ſoreneſs was no greater than would have ariſen from the deſtruction of ſo much fleſh from any other cauſe.

" I am convinced it argues great folly to condemn any innovations, or attempts at improvement in the arts and ſciences, without *due inveſtigation*. This is a kind of treatment, however, which your diſcovery, as well as all others, have experienced, and while human nature is the ſame, muſt expect *ſtill to* experience."

flamed, and painful. The *Tractors* were uſed, and the part in leſs than five minutes was perfectly eaſed. As the wart was not yet burned entirely to its roots, the iron was again heated, and applied to the part longer than before; a moſt excruciating pain ſucceeded, extending to the elbow, with an inflammation which reddened the whole hand, and a large bliſter was the conſequence; the experiment was again made, and in about ten minutes the redneſs totally diſappeared, and the pain was entirely removed. Many have ſubmitted to ſimilar meaſures, in order to *experience* the effects. I once formed one of five, who burned ourſelves ſo that bliſters were raiſed to make the experiment; we all obtained relief in a few minutes.

EXPERIMENTS XII.

ELIHU MARVIN, M.D.
of Norwich,

Fellow of the Connecticut Medical Society.

"SINCE I have been in the uſe of your *Tractors*, which is about four months, I have, by way of experiment, made uſe of them in caſes of *pains* and *inflammatory* affections, of almoſt every kind, and on ſubjects of all ages and deſcriptions, and, as might be expected, with various ſucceſs. Of one fact, however, I am fully convinced (in oppoſition to former prejudices) viz. that in a variety of diſeaſes, a proper application of them is capable of effecting a change in the human body; which I can no more doubt, becauſe I cannot aſſign a ſatisfactory, philoſophical reaſon for it, than I can doubt the operation of *opium*, becauſe the properties of that gum, by which, and the *modus operandi*, in which it produces ſleep, are to me wholly unknown. I am confident, reaſoning *a priori*, would as ſoon eſtabliſh one fact as the other. Caſes in which the *Tractors* in my practice have operated ſucceſsfully, are, *burns*, *head-*

achs,

aches, *pains in the face*, or *teeth*, *opthalmics*, *pains in the limbs*, *breaſt*, and *ſide*, and *cynanche tonſillaris*; yet candor requires I ſhould ſay, that ſucceſs in theſe caſes has not been univerſal.

" One caſe of *cynanche tonſillaris*, or common *inflammatory quinſey*, I will relate to you. I viſited a young man, late in the afternoon, found him exerciſed with all the uſual ſymptoms of that diſeaſe; ſuch as a general inflammatory *diatheſis*; the tonſils ſo tumefied, as to be nearly cloſed together; his throat and neck externally enlarged; a conſtant diſcharge by ſpitting a glairy mucus, and complaining of exceſſive pain in the part: theſe ſymptoms had been increaſing three or four days. His mother aſſured me, he had not ſwallowed any thing for thirty-ſix hours, except three or four ſpoonfuls of water, in which toaſted bread had been ſoaked. I could not learn that any means had been uſed for his relief, except keeping within doors, and making ſome external application. I uſed the *Tractors*, and very ſoon the ſpitting ſenſibly decreaſed. After ſome time he obſerved the pain was wholly gone on one ſide, and much leſſened on the other. I then directed him to make trial how he could ſwallow; he took a tumbler of ſweeten-

ed

ed water, and drank it off with little difficulty; and immediately eat about half a pint of cuſtard. I then left him, with directions to apply the *Tractors* frequently, and in the intervals to keep the throat covered with ſome emollient poultice. On viſiting him the next day, I found him ſitting by the fire, roaſting oyſters, and eating them without difficulty. He obſerved, "he was well." I made every enquiry to diſcover, whether the ſwelling had not burſt, but could not learn any thing which gave the leaſt reaſon to think it had. I left him a doſe of purgative pills, which he ſwallowed without pain, and in a few days regained his uſual health.

EXPERIMENT XIII.

JAMES GOSS, M. D.
of Glouceſter, Maſſachuſets.

"I THIS day ſaw your *Tractors* applied with ſucceſs on a child of Mr. James Smith, fifteen months old, which had been, about an hour before the application, very ſeverely *ſcalded*, by falling into boiling fat with one hand and arm, on which large bliſters were raiſed. After a few minutes operation, the redneſs and inflammation was almoſt wholly removed, and the child appeared to be eaſed of pain."

EXPERIMENTS XIV.

CONSTANT FREEMAN, Esq;

Chief Director and Governor of the Infirmary or Alms House of Boston.

" Dr. Perkins, by request, visited the alms-house of this metropolis, and made experiments on several persons with his celebrated *Metallic Tractors*. Among these was one John Patterson, who had been in the alms-house six months with the *chronic rheumatism*; two months of which he was confined to his bed, during the other four months he had hobbled about with crutches, when Dr. Perkins performed the operation; since which he has thrown aside his crutches, and walks only with a staff, which he uses not for the rheumatism, for he has none, but merely for a support, as his thigh-bone was then, and still remains, dislocated.

" Nancy Blake was also cured by the Doctor of the *rheumatism* in her back, which had constantly afflicted her for more than three years.

" Lewis

" Lewis Dumeth, a Frenchman, was alſo operated upon by the metallic influence for the *rheumatiſm* in his lower extremities, which had confined him to his bed and crutches for months; he immediately threw aſide his crutches and walked about the houſe; has walked about the town ſince, and had no return of the rheumatiſm in either leg."

EXPERIMENTS XV.

Mr. NATHAN PIERCE,

Governor of the Alms Houſe in Newbury Port, Maſſachuſets.

" DR. PERKINS viſited the alms-houſe in this town yeſterday, and performed experiments with his *Tractors* on three perſons who had been ſeverely afflicted with the *rheumatiſm*; and, from the beſt obſervations I have been able to make in ſo ſhort a time, they all appear to be much relieved of their complaints."

EXPERIMENT XVI.

PIERPONT EDWARDS, Esq;

District Attorney in the Federal Court of the United States, for the State of Connecticut.

New Haven, Oct. 7, 1796.

"A MRS. BEERS, a neighbour of mine, had been for fourteen weeks distressed with the *rheumatism* to such a degree, that she was scarcely able to walk even with the assistance of crutches.

"On the 29th of September last, she procured a set of your *Tractors*, and in less than an hour after she had begun to use them agreeably to your directions, she rose from her chair, and walked about her house, and on the next day she went abroad to her neighbours, having thrown aside her crutches; her fever has since left her, her appetite has returned, and she is in a fair way to be restored to perfect health.

"It is a duty you owe yourself and the world, to promulge this event."

EXPERIMENT XVII.

Communicated by

JAMES BURRILL, Eſq;

Attorney General for the State of Rhode Iſland.

" My ſon had for nine years been afflicted with the *rheumatiſm* to ſuch a degree, that he could not walk without crutches, nor at many times dreſs or undreſs himſelf. Dr. Perkins, by applying his *Tractors*, gave him immediate relief, ſo that he walked with eaſe, unaſſiſted by any ſupport. For nine years preceding this period, the diſorder was ſo violent that he was almoſt conſtantly in pain, which at night was ſo ſevere as often to prevent ſleep. Soon after the operation of the metallic influence, he was wholly freed from pain, and the ſwelling of his joints ſubſided. Since that time, when the ſame ſort of pains recurred, of which there have been but few inſtances, they have always been eaſily removed by the ſame application.

" Joſeph Bradford."

" Mr.

Mr. Bradford is a neighbour of mine, and I have knowledge of his ſon's having been for a great number of years ſeverely afflicted with the rheumatiſm to ſuch a degree that he always appeared to walk with great difficulty; and that ſince your metallic application, to which I was an eye-witneſs, he has walked with apparent eaſe, and in every appearance is much amended. I have had knowledge of the ſucceſs of your *Tractors* in many other inſtances, and have the firmeſt belief in their general efficacy."

EXPERIMENT XVIII.

CALVIN GODDARD, Eſq;

Attorney at Law, and Member of the Legiſlature of the State of Connecticut.

September 25th, 1796.

" I HAVE lately been eye-witneſs to an experiment with your *Tractors*, which appeared to me a little ſingular. A rough hardy labourer had a very bad *boil* upon the outſide of his ancle. The limb was much ſwelled from his

knee to his toes, and appeared as if the ſkin was ready to burſt. The foot was in an high ſtate of inflammation, and the pain, which extended to his hip, was ſo ſevere as to deprive him of ſleep in the night preceding. I drew the inſtruments repeatedly up and down the leg, without any viſible effect or decreaſe of pain, until I was almoſt diſcouraged; at length, however, he pulled off his coat, and flung it aſide, (it was one of thoſe cold nights in the beginning of this month.) His leg was of a ſudden wet with perſpiration; indeed the ſweat burſt inſtantaneouſly from all its pores; the inflammation upon the foot ſubſided, and the ſwelling abated. The man declared himſelf free from pain, went to bed and ſlept well, and I have heard no further complaint. As I had never known of this ſweating * effect, I thought the caſe worth reporting to you."

* This is not at all unuſual: a profuſe perſpiration on the diſeaſed part, generally takes place on the removal of violent pain by the *Tractors*.

EXPERIMENTS XIX.

GEORGE WARNER, Esq;

Member of the Legislature of the State of New York, from the City of New York.

July 26th, 1797.

"I HAVE made frequent experiments with your *Tractors*, and succeeded, to my surprize, in removing *rheumatic affections*, *pains* in the *head*, *face*, *teeth*, *ears*, *side*, *breast* and *back*. One remarkable cure in a case which was supposed to be a species of the nervous fever, I will relate.

"A lady who had been sick for near three months, and had given up all hope of relief from medical aid, sent for me.

"I found her very ill, and in so feeble a state, as not to be able to help herself. A violent pain in the head and eyes, that she could not bear the light; her jaws so much contracted that she was unable to open her mouth; the root of her tongue swelled to such a degree, that she spoke

with great difficulty; a number of ſmall tumors appeared under the throat. I applied the *Tractors* externally, in the uſual way, and in leſs than one hour ſhe declared ſhe was free from pain of every kind. She then could bear the light upon her eyes, and open her mouth. The ſwelling under her throat ſoon diſappeared, and ſhe ſpoke without any difficulty, to the great ſurprize of all preſent, and ſat up in her bed with perfect eaſe. The ſame day ſhe ſat at table, and eat her dinner, which ſhe had not done for ſome months before. The next day I called to ſee her, and found her engaged in her domeſtic concerns, free from all pains. She is now reſtored to perfect health."

EXPERIMENT XX.

JAMES GLOVER, Esq;
County of Tioga, State of New York.

"YOUR *Tractors*, which I lately purchased to use in my family, I have applied, with great success, upon a person *scalded* with boiling lie. A man by the name of *Welch*, who was at work in my pot-ashery, when boiling down the lie some of it flew into one of his eyes, which soon became very much inflamed, and swelled to such a degree that he could not open it, and remained in that situation for the space of three days. After the *Tractors* had been used a few minutes, he was able to open it, and with two applications only, his eye was entirely free from pain and inflammation, and in a short time was perfectly well, although so badly scalded that he had despaired of its ever recovering."

EXPERIMENT XXI.

BENJAMIN SHREVE,

Of Alexandria, VIRGINIA,

Of the Society of the Friends.

5th Month, 16th Day, 1797.

"I HAVE been witneſs to an operation of your *Tractors* on my ſon, for the relief of *epileptic fits*, to which he has been ſubject about eighteen months.

"On the 23d day of the fourth month, he was ſeized with one, with entire loſs of reaſon. His hands were ſo clenched together with ſpaſms, that the efforts of James Lauraſon, whoſe aſſiſtance I called in, and my own, could not open them. In this ſituation we applied your *Tractors* to each arm, drawing them from the elbow down to his hand, and to our great ſurpriſe his hands ſoon became perfectly lax, and opened with eaſe: by continuing the application on his head for a few minutes, he came to his reaſon, and went to ſleep; ſince which he has had no more ſigns of them. On all former attacks, they have continued ſix or eight hours, and from twelve to twenty in number.

number. Bleeding and other means have been uſed, but he was never before relieved of them ſo immediately. I am confident the *Tractors* effected the cure.

"Conceiving it the duty of every friend to human happineſs to encourage uſeful diſcoveries, I beg you will publiſh the above fact."

EXPERIMENT XXII.

Rev. JEDEDIAH MORSE, D. D.
Of Charleſton, Maſſachuſets,

Fellow of the American Academy of Arts and Sciences, Member of the Hiſtorical Society of Maſſachuſets, Author of the "Univerſal Geography," and "American Gazetteer," &c. &c.

"I HAVE made a ſucceſsful trial of your *Metallic Tractors*, in a number of caſes, ſuch as *burns*, *pains* in the *head*, *teeth*, *face*, *ears*, *ſide*, *back* and *limbs*, ariſing from cold. In one inſtance the painful effects of the *ſting* of a *waſp* were entirely removed. In ſome caſes I have been unſucceſs-

ful, particularly in a burn, where *oil* * had been previouſly applied; and in the tooth-ach, where the teeth were *very defective* †. On the whole, I think the diſcovery to be a very uſeful one, and wiſh it cordially all imaginable ſucceſs."

EXPERIMENT XXIII.

Rev. SAMUEL SPRING, D. D.
Of Newbury Port, State of Maſſachuſetts,
Author of "Religious Tracts," &c. &c.

February 24th, 1797.

"GIVE me leave to congratulate you in the view of the ample ſucceſs with which your diſcovery has been crowned. To aſcertain its utility in any new caſe, will, to you no doubt, be particularly grateful. Let me then remark, that they have proved ſucceſsful in removing the *rickets*. In my congregation at

* For the obſtacles which oils preſent in removing pains by the operation of the metallic influence, ſee page 20.

† It may not be reaſonably ſuppoſed that a radical *cure* could be made on teeth which were *very defective*.

Newbury

Newbury Port, there is a young gentleman, who, previous to the application of the *Tractors*, had not, for ſixteen years, been able to bend his body ſufficiently to reach the floor with his hand; but whoſe pains, in a few minutes afterwards, were not only removed, but he was alſo able to reach the floor with facility. I have not the leaſt doubt but many afflicted children, and young perſons, might in a ſhort time be relieved from the burden of ſuch complaints, by a ſeaſonable and proper uſe of the *Metallic Tractors*.

" In conſequence of your invaluable diſcovery for removing many pains of the human body, I wiſh you, dear Sir, the moſt ample ſucceſs, and the grateful notice and encouragement of your fellow-citizens."

EXPERIMENT XXIV.

Rev. SAMUEL STILLMAN, D. D.

Paſtor of the firſt Baptiſt Church in BOSTON,
Fellow of the Univerſity at PROVIDENCE, &c.

"I FEEL myſelf much obliged to you for the important ſervice you have rendered to Mrs. Stillman's *eyes*, after a diſtreſſing *inflammation* of eight months. If through too much exerciſe, or being expoſed to very cold air, a degree of inflammation returns, it is removed in a few minutes again by the application of your *Tractors*. I have, in my walks among the ſick, made uſe of them repeatedly with ſucceſs, and cannot but think they will be of important benefit to mankind."

EXPERIMENT XXV.

Rev. CHANDLER ROBBINS, D.D.

Of Plymouth, Maſſachuſetts.

"SEVERAL perſons, ſince you left us, have experienced immediate relief, in various complaints, by the *Metallic Tractors*.

"I uſed them the day before yeſterday on a man's hand, which was prodigiouſly ſwelled and painful, by a wound he received on its back, and which was much inflamed, by his neglect in expoſing it to the cold. He was relieved by that ſingle application; the ſwelling ſubſided, and the inflammation diſappeared, ſo that he went directly to work on board his veſſel. The laſt night it gave him no pain."

EXPERIMENT XXVI.

Communicated by the

Rev. SAMUEL HOPKINS, D. D.
Of Newport, Rhode Iſland,

Author of "The Syſtem of Divinity," &c. &c.

Auguſt 17th, 1796.

"FOR twelve or fourteen years Captain William Ladd, of Newport, had been frequently afflicted with ſevere paroxyſms of the *gout*. In the fall of 1795 he had a violent attack of this diſorder, which had confined him to his room for five or ſix days. At this time, when his foot was very much ſwelled, inflamed, and in ſuch extreme pain, eſpecially his great toe, that he could not walk, nor ſet his foot on the floor, I called upon him, and operated on his foot with the *Metallic Tractors* according to Dr. Perkins's directions. Within five minutes the pain and inflammation ceaſed, ſo that he walked with eaſe. The ſwelling within twenty-four hours ſubſided, ſo that he put on his ſhoe; and this foot in two days became as well as the other. The pain has twice returned ſince, but has been ſoon removed by the ſame application. I have information of other perſons being cured of pain, by the ſame means, in this city."

EXPERIMENT XXVII.

Rev. LEVI HART,
Of Preſton,
Fellow of the Univerſity at New Haven, &c.

"I HAVE been a witneſs to the ſucceſsful application of your *Metallic Tractors*, in removing *rheumatic pains* and *head-achs*. In repeated inſtances I have alſo ſeen *excruciating pain*, occaſioned by *contuſion*, removed in a few minutes by the ſame application. From perſonal obſervation, and the information of others, I am fully ſatisfied of the utility and importance of your diſcovery for the relief of human diſtreſs in various complaints."

EXPERIMENTS XXVIII.

Rev. THOMAS BARNARD, D.D.

Of Salem, State of Maſſachuſetts.

December 6th, 1796.

"A LADY of between ſixty and ſeventy years of age had one of her fingers contracted for ſeven years, which ſhe was unable to open without the aſſiſtance of the other hand. About the firſt of November laſt I applied your *Metallic Tractors*. The difficulty was removed, ſo that ſhe opened it as her other fingers. I have had direct information from her three weeks ſince the operation, and her finger continued well. At the ſame time I cured a *whitlow* on one of her thumbs with one trial. From what I have done, ſeen, and heard, I am fully ſatisfied that the diſcovery is important to the healing art."

EXPERIMENTS XXIX.

Rev. ELHANAN WINCHESTER,

Author of ſeveral celebrated Publications in Favour of Univerſal Salvation; Anſwer to Paine's Age of Reaſon; &c. &c.

Philadelphia April 4th, 1796.

"On the 25th of March 1796, I ſaw Dr. Perkins's experiment with his *Metallic Tractors* tried with ſucceſs, upon ſeveral patients in the Alms or Bettering houſe in Philadelphia, eſpecially upon a man who was unable to lift his right-hand to his head, as was tried before hand; but who, in a few minutes, was able to remove it at pleaſure; and in my ſight, put it with eaſe on the top of his head and back of his neck, and in all directions.

"Nearly the ſame effect took place upon a woman; and all on whom the experiments were made profeſſed that their pains were removed; and ſeveral came voluntarily, and in my hearing thanked the Doctor for cures he had performed on them, about eight weeks before, in

removing pains from them, which they declared had not ſince returned. From what I ſaw with my own eyes, and what I heard, I have great hopes that this diſcovery will greatly tend to alleviate the miſeries of mankind."

EXPERIMENT XXX.

Rev. JOHN DEVOTION,

Of Saybrook, Connecticut.

Extracted from a Diſſertation, of conſiderable length, on the Philoſophy of the Operation of the *Metallic Influence*, addreſſed to Dr. Perkins.

——" My own infirmity gives occaſion for philoſophic inquiry. A moſt terrible fever, or ague ſore, in my youth, cauſed an exfoliation of the ſhin-bone five inches and three quarters long; after long phyſicking and dreadful evacuations, which brought me to the ſide of the grave, the ſkin or fleſh grew upon the bone without a perioſteum. Whenever a ſpeck of bone becomes carious, it feſters, and will not heal till the carious bone exfoliates: add to this, a piece of mal-practice of my ſurgeon, in applying a cauſtic where the knife

knife ſhould have been uſed, which burned into my leg a place about an inch in width, and three fourths of an inch in depth. In my ſtate of convaleſcence this grew up; but the fall paſt, all that fleſh which had grown in the place where the cauſtic had been uſed was, from ſome cauſe, again conſumed, leaving at the bottom a canker, which conſtringed the fibres, and produced continual inflammation and ſevere pain. Such was my condition when you ſaw me. I applied the *Tractors* to my leg, and found eaſe, but knew that the carious bone and canker would cauſe a return of inflammation.—I have uſed them to the relief of a perſon labouring with an obſtinate *rheumatiſm* twelve months, ſeated in the knee. It has removed the pain, the ſoreneſs of fleſh remained. —I have uſed them upon a ſea captain, who, ſcarce recovered from the Weſt India fever, came upon this coaſt, and was diſtreſſed twenty days; loſt ſeven hands, and was afflicted with the *gout* in both his toes and left wriſt. His feet and legs were ſwelled to ſuch a degree that I could ſcarce make an impreſſion upon them; and his wriſt highly inflamed, and extremely hard: the firſt experiment removed the pain, ſo that he walked about the room, and the night following reſted well, and lay upon that arm and wriſt, on which he had

not

not been able to lie for twenty days. He, Sir, had no belief in the efficacy of your *Metallic Tractors*, but is now captivated with the relief they have afforded him.

" I uſed them upon three perſons, in one room, about ten minutes each.—When I ſet out to return home I found my knee and elbow joints looſed. A *univerſal relaxation* and *nauſea*. I immediately recollected it was the ſenſation of an electric ſhock. This, Sir, with experiments upon my own leg, opens a ſyſtem of philoſophic ſpeculation. I ſoon found the electric fluid * paſſing into my leg: I went home and applied the *Tractors*, and obtained relief; went to bed, and reſted quietly; the next morning found my face puffing up on the left ſide. I then reaſoned thus —I have drawn the electric fluid of three perſons into my own body, which ſoon centered around the carious bone and canker in my leg. I operated with my own hand, and drew the electric

* How far the Rev. Mr. Devotion's ideas, as to the cauſe of the extraordinary effect produced on him, will comport with what little is known of the laws of electricity, I ſhall ſubmit to the electrician to determine; but that as remarkable phenomena, in complaints not more ſingular than that on his leg, I can obſerve have ſeveral times taken place, after an application of the TRACTORS.

fluid

fluid from my leg, and have ſcattered it through my whole frame. Whereupon I called a lad of my family, and made him operate upon my other leg, which drew down the puff on my face in a few minutes. I thence found, if I uſed the *Tractors* upon other perſons with my own hand, I ſhould draw the electric fluid into my infirm leg. Theſe experiments offer ſome data to reaſon from.

[*Here follows a very ingenious diſſertation on the cauſe of the above phenomena; which the limits of this work will not permit me to introduce.*]

" Now, Sir, as the *Metallic Tractors* act upon an eſtabliſhed law of nature, there is no fear they will want power ſo long as the electric rod will draw electric fire. All the unbelief and buffoonery of the envious will not hinder their effects. I think there is a foundation laid for great improvement in the medical art by *the inquiſitive* phyſiologiſt.

" *P. S.* I have tried the *Tractors* in ſmall *burns* in my own family, and find they give immediate relief. An inflammation in the *eyes* was relieved much by once operating: the patient came again,

and had it effectually removed laſt Saturday. As I do not practiſe phyſic, and have been confined much by my own infirmities (which by the way are gradually gaining, eſpecially the cankered wound) I have not had ſo full an opportunity of knowing the effects upon ſome who have only once been operated upon; one in an eryſipela of twenty years ſtanding at a diſtance from me, &c.

"Such caſes as may yet be found relieved by them, ſhall be noticed with critical obſervation, that it may be known in what caſes they generally ſucceed. We are always liable to errors in *a priori* argumentations. *Experientia docet:* here we have ſure ground to ſtand upon; ſome who have imagined the operation of the Metallic Influence to be a kind of magic charm, have brought diſcredit upon it, by uſing the *Tractors* where they ought not to have been uſed. I was glad to find particular caſes ſpecified, in which they had been ſucceſsful; ſuch experiments may poſſibly lead to the diſcovery of ſome other laws of nature, yet enveloped in obſcurity."

END OF THE EXPERIMENTS.

ADDITIONAL REMARKS, &c.

I CAN foreſee that the ſpeculative phyſiologiſt is now ready to aſk from the diſcoverer of the Metallic Influence his *Theory*, and to enquire *how* all theſe effects, ſtated in the Experiments, are produced?

To this I muſt reply, that his theory is not yet publiſhed. It is a favourite maxim with Dr. P. that the judicious phyſician at firſt leaves the flowery path of ſpeculation, for the more arduous one of experiment, and builds his theory, ſo far as is poſſible, on the ſolid baſis of facts. Theſe facts he eſtabliſhes by the concurring teſtimony of his ſenſes, accompanied with ſuch critical and candid obſervations, as alone are competent to detect a fallacy, or ſupport the truth.—The great object with Dr. Perkins was, firſt to aſcertain the truth relative to the *uſefulneſs* as well as the *exiſtence* of the diſcovery. To accompliſh this, it was not abſolutely neceſſary to underſtand minutely the theory, but rather to obſerve critically the effects. It is by theſe that the exiſtence

of a cauſe is aſcertained, and by theſe alſo its utility muſt be demonſtrated. The phenomena are often learned from obſervation long before we can arrive at the theory which connects and explains them.

From the impreſſions this reflection produced in his mind, the Diſcoverer has hitherto foreborn publiſhing his ideas relative to the cauſes of the phenomena produced by the metallic influence.

Having, however, by this period aſcertained, from almoſt innumerable experiments, ſo many important facts relative to the diſcovery, he intended, when I left America, publiſhing his theory as ſoon as he could have leiſure to give the ſubject the attention which it merited. Poſſibly his ſyſtem, like moſt others, may be objectionable. The many incomprehenſible properties of the principle * on which the metallic influence

* The indefatigable reſearches of the celebrated M. Von Humboldt, of Germany, will, I anticipate, throw much light on this intereſting ſubject. From the very ſhort time his firſt volume (an 8vo. of 500 pages, and which is to be followed by another) has been publiſhed, I have not been able to obtain it for peruſal; The Appendix to the laſt volume

fluence is generally ſuppoſed to act, preſent a *terræ incognitæ*, which none but the moſt fortunate and experienced adventurer can explore; yet Dr. P. will have the ſatisfaction to reflect, that while the facts

volume of the Monthly Review has the following remarks: "No work on Animal Electricity, or as it is now more generally termed, on *Galvaniſm*, has excited ſo much expectation on the Continent as this of M. Von Humboldt.—"I have been employed," (ſays the author) "for a number "of years, in comparing certain phenomena of animal "matter with the laws of inanimate nature; and I have "ſucceeded in ſome experiments, which ſeem to lead "towards the developement of the chemical proceſs of "life. A ſeparated animal organ, provided with irritable "and ſenſible fibres, can in a few ſeconds be raiſed from "the ſtate of the moſt profound inirritability, to the higheſt "ſuſceptibility of ſtimuli, and again be reduced to its firſt "condition of torpor."

"Treating of excitation by different metals, the author ſhews that they need not be in contact.

"I have ſeen (ſays he) galvaniſed fiſhes, which had "been decapitated half an hour before, make ſuch ſtrokes "with the tail that the whole trunk has riſen ſix inches "above the table. When I exalted their ſuſceptibility by "alkali, or by oxygenated marine acid, they could ſcarcely "be managed. The ſmalleſt touch of the metal made them "jump."

"After having related his obſervations on the application of metals to the tongue, noſtril, and eye, the author deſcribes the appearances and ſenſations which took place on *galva-*

facts abide, an erroneous theory will not leſſen the uſefulneſs or importance of the diſcovery.

We certainly ought not to reject a practice which produces ſalutary effects, becauſe we do not know *how* it produces them. We do not lay aſide the various uſes of the magnet, as the ſurveyor's and mariner's compaſs, becauſe we do not underſtand the laws of magnetiſm, and cannot aſſign the reaſon why the needle is directed towards the poles.

" *Niſi utile eſt quod dulce, ſtulta eſt gloria.*"

niſing two ſpots on his back where the ſkin had been expoſed by bliſtering. The pain is peculiar, and very different from that which is occaſioned by the electric *aura*. Here a violent throbbing, regular preſſure, and continued burning took place. " The preſſure was ſo violent (ſays he) that I " thought I had been ſtruck with the clinched fiſt, when all " the by-ſtanders aſſured me I was only touched in the " gentleſt manner by the edges of the metal."

" Some facts are related, which ſeem to indicate that *galvaniſm* will prove an effective application to recover perſons apparently dead. Theſe and other reſults lead us to hope that the practice of medicine will, ere long, be eſſentially benefited by the reſearches of M. Von Homboldt, and his fellow labourers."

It muſt be acknowledged, that to be able to comprehend whatever our reaſon is bent on inveſtigating, is a ſource of no ſmall degree of ſatisfaction; yet were we to diſbelieve the exiſtence of every thing, which we are unable to comprehend, we muſt reject three fourths of the daily occurrences of life.

Several have been the attempts made to explain the phenomena of the metallic operation in the United States. Among others, the ingenious Dr. *Vaughan* read before the Medical Society of Delaware, a Diſſertation on the ſubject of *Animal Electricity*, or the newly diſcovered influence of *Galvani*; and on that principle he attempted to account for the effect of the *Tractors*. Having ſince enlarged on the ſubject, he has complied with the requeſt of the ſociety, and publiſhed it. As this Treatiſe is not yet re-publiſhed in this country, ſome extracts from it will probably be acceptable, and with theſe I ſhall conclude this Tract.

Prefatory to the work, is the following letter from a gentleman of great medical reputation, to the author.

Letter from JAMES TILTON, M. D. Preſident of the Medical Society of the State of Delaware, &c. to JOHN VAUGHAN, M. D. M. P. M. S. Fellow of the ſame Society.

" Dear Sir,

" I AM very glad you have at length overcome the reſtraints of diffidence, by giving us your thoughts on electricity, in explanation of Dr. Perkins's metallic operation.

" That ſome general principle exiſts, which gives the *Tractors* a powerful influence on the animal œconomy, is now acknowledged by philoſophers, the moſt candid and beſt qualified to judge. Even *Meſmer*, in his application of the metals, was patroniſed by the ableſt phyſicians of Germany, until he covered and obſcured thoſe ſimple facts, which ſhould have been improved for the benefit of ſociety, with empirical frauds, that had no object beyond the accumulation of money. Inſtead of involving Dr. Perkins in the diſgrace of Meſmer, I apprehend we ought rather to contraſt the *honeſt man* with the *rogue*; for without art or affectation Dr. Perkins barely diſcloſes uſeful facts, by means the moſt ſimple and eaſy.

" It

" It muſt be confeſſed, however, that many reject our general principle: like infidels to the goſpel, they admit of no myſteries, and refuſe to believe what they do not comprehend. Others, who acknowledge that a general principle pervades the animal œconomy, on which the metals have influence, nevertheleſs diſpute about what this notable power may be. Both theſe claſſes of men ought to thank you. To the one you have given a reaſon they did not apprehend; and the other ſhould wiſh for the beſt account known, or well underſtood. For my own part, I frankly confeſs I ſhall be ſatisfied with the principle of ANIMAL ELECTRICITY, until the phenomena are better explained by means of ſome other.

" By publiſhing to the world the thoughts which you have digeſted and arranged on animal electricity, and the manner in which it explains the metallic operations, you will at leaſt invite diſcuſſion, and may profit, with the reſt of your brethren, by the event.

With great reſpect I am, dear Sir,
your friend and humble ſervant,
JAMES TILTON."

Wilmington,
July 20th, 1797.

OBSERVATIONS

ON

ANIMAL ELECTRICITY.

"NOTHING has been ſo great an obſtacle to the advancement of medical ſcience, as the partiality and obſequious regard which the generality of phyſicians of all ages have paid to great authorities; for whilſt they diſregard the teſtimony of their ſenſes, and indolently aſſent to things on the credit of others, they remain paſſive dupes to their own credulity, and ſeldom examine whether they are right or wrong. An error thus admitted is reluctantly corrected, and becomes the copious ſource from which numberleſs falſe opinions flow.

"There are perhaps but few that are not diffident in deviating from principles eſtabliſhed by men of general erudition, whoſe geniuſes were qualified to interrogate nature with ſucceſs. But an error once diſcovered ſhould be immediately corrected, in oppoſition to the *ipſe dixit* of all the dogmatiſts

dogmatiſts of ſeventeen centuries. Yet there are few diſcoveries in the healing art, but what meet with tumultuous oppoſition from the congregated legions of prejudice, ignorance, and ambition. Some nominal philoſophers diſbelieve every propoſition that does not accord with the doctrines of their anceſtors; and others are ſo extremely illiberal as to diſcard every new principle in which they can have no claim to INTEREST. A glaring example of the latter we have in the degrading denunciations of the European philoſophers, when the illuſtrious Dr. *Franklin*'s diſcovery of the identity of lightning and electricity was firſt delivered to the world. A ſecond, no leſs true, we have in the diſcovery of Dr. *Perkins's Metallic Influence*, which will, like the former, ariſe triumphant amidſt the counter, but futile vociferation of prejudice and ignorance. Some reject the latter becauſe they were not the diſcoverers. Others queſtion the teſtimony of their ſenſes, becauſe they cannot explain the *modus operandi*, by referring it to the old doctrines of Van Helmont, Doleus, or Stahl. Yet the happy day is perhaps not far diſtant, when *envy* muſt fall a ſacrifice to TRUTH, and behold this problem accounted for on a native law of the animal œconomy.

" That

" That the bodies of animals poſſeſſed a fluid analagous to electricity, had long been ſuſpected by phyſiologiſts, and other ſpeculative philoſophers. [*Here follows an account of the origin of* GALVANI's *diſcovery, and the ſubſequent improvements by* VALLI, FOWLER, *&c. with a citation of moſt of the important experiments, together with his own theory of muſcular irritability and the nervous energy; which, in conſequence of their length, are neceſſarily omitted.*] He proceeds:

" I have frequently taken out the hearts of frogs, turtles, &c. and obſerved attentively their actions. They will contract and dilate *ſua ſponte* for ſome time, and then ceaſe, when they may be again excited to contract by lacerating them with a wooden or other pointed inſtrument. But when they become no longer excitable by theſe means, they may be re-excited to contract by the irritation of a metallic inſtrument. I once obſerved a ſimilar phenomenon in an amputated limb. One of the crural muſcles contracted upon being irritated with the point of a ſcalpel. The experiment was then tried with a pointed wooden inſtrument, but to no effect; yet on irritating it a ſecond time with the ſcalpel, it contracted

tracted once or twice. Hence the application of metals is one of the beſt and moſt delicate teſts for aſcertaining the leaſt poſſible degree of muſcular irritability. After having been wholly inſenſible to the impreſſions of all other *ſtimuli*, they may be re-excited, on the application of their native ſtimulus.

" Although we cannot with preciſion ſay why hominal electricity ſhould be ſuſceptible of metals only, yet the fact is inconteſtable, and ſanctioned by the experiments of thoſe gentlemen afore-mentioned, whoſe veracity is unqueſtionable. It is alſo further ſubſtantiated by the diſcovery of Dr. Perkins's *Metallic Tractors* for removing pains and topical affections. The Doctor obſerved to me that he had made trial of all the various metals, but none are ſo effectual as thoſe of which his *Tractors* are compoſed. This diſcovery is as important in the healing art, as it is novel in the ſcience of phyſiology, and all that remains, to illuſtrate its efficacy, is a rational and philoſophical demonſtration of the principle itſelf, and an explanation of the *modus operandi* on the eſtabliſhed laws of the animal œconomy. This, however, is conſidered problematical by ſome, and by others it is poſitively diſcarded.

diſcarded. Yet to ceaſe from enquiry becauſe we are ſometimes miſtaken, is no greater proof of wiſdom than to deſiſt from walking becauſe we ſometimes ſtumble.

"And if we only take an impartial view of the operations of nature herſelf, and attend diligently to the analytical inveſtigations of the afore-mentioned experimentaliſts on this ſublime ſubject, I think the ſceptic himſelf muſt admit, that the principle of nervous energy, is a modification of electricity. As ſenſation is dependent upon this energy, a pleaſurable ſenſation, or what may be termed a natural or healthy degree thereof; then certainly pain, or ſuperſenſation, can only depend on an accumulation of the electroid fluid, or extra degree of energy in the part affected. On this principle the problem admits of an eaſy ſolution; namely, that the metals being ſuſceptible of this fluid, conduct the extra degree of energy to parts where it is diminiſhed, or out of the ſyſtem altogether, reſtoring the native law of electric equilibrium.

"The particular affections in which this operation is the moſt effectual are, chronic rheumatiſms, as lumbago, ſciatica, &c. odontalgia, otalgia cephalalgia,

lalgia, phlegmons, cynanchies, opthalmias, pleuritic pains, ſpaſmodic cholics, burns and ſcalds, paronychiæ, contuſions, atonic gout, ſpontaneous hemorrhages, herpes, eryſipelas, &c. with many other topical affections which might be enumerated if neceſſary. The *Tractors* ſhould be carried to ſome diſtance from the part affected, along the courſe of the larger nerves; and in obſtinate and fixed pains of long ſtanding, the operation ſhould be continued until a ſlight inflammation is excited; but in eryſipelas, and other ſuperficial inflammations, the operation ſhould be very light on the inflamed part, and principally confined to the edges of the tumour. In removing pains from the head, the hair ſhould be perfectly free from pomatum, or other adipoſe ſubſtances; and all parts on which the TRACTORS are uſed ſhould be free from ſweat, oils, &c. In pleuriſies, cholics, &c. a diaphoreſis not unfrequently ſucceeds their operation, and ſometimes faintneſs is produced, by the ſudden abſtraction of nervous energy. In a caſe of cephalalgia, if the pain is confined to the fore part of the head, it is immaterial whether the hair is pomatumed or not. A few days ſince I awoke with a moſt rending head-ach, unaccompanied with fever; I delayed the operation ſome hours, on account of

my

my hair being pomatumed, but the pain became ſo inſupportable (and the uſual applications failing) that I reſolved to make trial of the *Tractors*, as the pain was for the moſt part in my forehead. After the operation had been continued a few minutes on my forehead, and the back of my neck, I was perfectly relieved from pain, and have remained ſo ever ſince.

"It is argued by ſome (who are oppoſed to the Metallic Operation) that the efficacy of the *Tractors* depends merely on a counter irritation produced by friction. I would aſk thoſe dogmatiſts how metallic friction cures burns or topical inflammations? Does not the leaſt impreſſion on an inflamed part produce pain, and would not friction augment the evil? Phlegmons, and ſome other topical inflammations, may often be removed by exciting a counter irritation with bliſters, &c. which reſtore the equilibrium of the nervous fluid. But bliſters ſeldom anſwer any valuable purpoſe in local inflammations, accompanied with exceſſive action of the arterial ſyſtem, until the fever is previouſly diminiſhed. Neither will the metallic proceſs ſucceed ſo well in the acute as in the chronic rheumatiſm, while the febrile action remains inordinate.

dinate. This ſhews a correſpondence in effect, but the modes of operation are diametrically oppoſite. The former is by an indirect organic proceſs; the latter by a direct and ſpecific operation; and all pretenſions towards identity are precluded by the diverſity of their effects on burns and phlegmons as before mentioned. Phlegmons, and other topical affections, are owing to an internal or external irritation on the nerves of a particular part, by means of which the veſſels of the part are alſo brought into action, and not unfrequently the whole vaſcular ſyſtem acts in concert, from a ſympathetic harmony primævally eſtabliſhed.

" *Spontaneous Hemorrhages* are thoſe which depend on a local exceſs of tone or electricity, denominated (by the illuſtrious *Cullen*) a Hemorrhagic effort.

" *Herpes* are the product of a morbid or exceſſive excitement in the veſſels of the cutis; the incruſtation is formed by exceſſive action. The metals remove this inordinate action by abſtracting the extra degree of electricity; corroſive lotions deſtroy the morbid action by corroſion, and

induce or reſtore the condition for healthy action.

" *Burns*.—The ſtimulus of heat produces inflammation, by exciting and accumulating the electric fluid.

" *Epilepſy* is owing to an irregular diſtribution of the nervous fluid, and an accumulation thereof in the muſcles affected with ſpaſm. That this is the fact, is obvious from the preternatural ſtrength of epileptics.

" *Pain* is merely an accumulation of electricity, in a particular part; and the ſubſequent ſtate of eaſe is obtained by abſtracting the extra degree of ſenſibility. Hence the frequent faintings in parturition, cholics, &c. are to be imputed to a diminution of nervous energy. In chronic pains, connected with idioſyncraſy, or dependant on habit, ſo that the orgaſm of the part is injured, or a mal-conformation induced by nature or accident, the metallic proceſs cannot be expected to ſucceed.

" When ſuppuration has taken place, the *Tractors* muſt be conſidered as mere palliatives.

They ſhould never be uſed on the back, during the exiſtence of the catamenia. Beſides thoſe caſes in which they have already been found ſucceſsful, future experience will probably develope many others, in which they will prove equally efficacious.

" The *Tractors* will alſo, in all probability, ſucceed better in the hands of ſome perſons than others. For example:—Many people are remarkable for an extreme luſtre in their eyes; ſome are ſo much electrified naturally as to ſhew evident ſigns of it when a ſenſible electrometer has been applied to them; and others have manifeſted an extreme ſenſibility of even the ſmalleſt degree of electricity, inſomuch that they would be affected by a flaſh of lightning, though ſo remote that the thunder could not be heard. All this evinces that electricity, ſo far from being noxious, bears a very active and ſalutary part in the animal œconomy, which will probably lead to more important reſearches on this intereſting ſubject, and incite future travellers to explore the remaining *terra incognita.*"

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